

PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting, October 25, 1886.

The Vice-President, CHARLES K. MILLS, in the chair.

Dr. MORRIS J. LEWIS read a paper on

A Partial Study of the Seasonal Relations of Chorea and Rheumatism.

The paper is based upon a study of the seasonal relations of chorea and rheumatism, and for this purpose the weather at Philadelphia, for the years 1876-1885 inclusive, has been investigated, together with the number of storm centres, or centres of low barometer, passing across or near the United States. These data were obtained from the monthly weather reports, and from the records kept at the signal station in that city, which have been kindly placed at his disposal.

Recent investigations, undertaken by him in 1881, in regard to the relation existing between the number of cases of chorea and the varying states of the weather, showed such a curious resemblance between the chorea and storm tracings that he deemed the subject worthy of further study.

The former work is embodied in Dr. S. Weir Mitchell's book of "Lectures on Diseases of the Nervous System, Especially in Women," and the statistics there mentioned were based upon the study of the months of onset of one hundred and seventy separate attacks of chorea occurring in the years 1876-1880 inclusive, but at that time the storm records of the years 1878-1880 inclusive only were available, during which time eighty-seven of the above-mentioned one hundred and seventy attacks occurred. For the present study he had collected all the separate attacks of chorea which had been noted at the clinics of the Orthopædic Hospital and Infirmary for Nervous Diseases during the years

1876-1885 inclusive. These number in all four hundred and thirty-seven, and necessarily include those previously studied.

The reader continued : As it is a well-recognized fact that a relationship exists between chorea and rheumatism, which, it is needless to say, is as yet imperfectly understood, I thought that it would be of much interest to compare with the cases of chorea the months of onset of attacks of acute inflammatory rheumatism occurring during the same period, and for this purpose have carefully studied the notes taken at the Pennsylvania Hospital, which have been placed at my disposal ; from these I have collected four hundred and sixty-seven separate attacks of rheumatism, having excluded those that are at all doubtful, and those which occurred among sailors at sea, who were afterward brought to this port.

It must be borne in mind that while the records of the weather are complete as far as they go, the cases of disease here reported are but a small portion of those that must have occurred in this city during that decade ; but, despite this fact, there is every probability that the percentage of chorea cases per month is practically correct, as may be seen by the almost exact resemblance between the two tracings of one hundred and seventy and four hundred and thirty-seven attacks, respectively—Nos. 3 and 5.

To study properly the effect of the weather upon disease, there should be a *daily* record of both weather and disease taken, as has been so carefully done in the relation of pain to weather by Captain Catlin, recently reported by Dr. Mitchell before the College of Physicians ("Transactions of the College of Physicians of Philadelphia," vol. vi.). In the diseases in question, however, the *day of onset* could only be obtained with certainty in a few cases, and, therefore, it was necessary to be satisfied with the *month of onset* ; this, of necessity, destroys, to some extent, the value of the observations, but sufficient of interest remains to justify the present study. By taking the average of too long a period of weather the effect of sudden changes and all irregularities are lost sight of, and in this way some facts of importance may be overlooked.

In the present study the monthly average of the weather for ten years has been taken and compared with the monthly average of disease, but the peculiarities about to be spoken of are best seen when a table is made which shows the mean of the ten years in question, month by month.

The accompanying table is so arranged by repeating the first half of the year, that any portion of the tracings may be studied in unbroken sequence.

Tracing No. 5 (shown at the meeting) represents the *months of onset* of four hundred and thirty-seven separate attacks of chorea, and shows the actual number for each set of months, or the average number for each set, according to the manner of reading the figures; thus, January shows thirty-six attacks, which means thirty-six attacks for the ten Januarys, or 3.6 cases as an average for each January.

This tracing will be seen to be lowest in October and November, eighteen and nineteen attacks, respectively (4.1 and 4.3 per cent.); it then rises rapidly, until thirty-six attacks in January have been reached (8.2 per cent.), falls slightly in February, and again rises, reaching its highest point in March, which shows sixty-two attacks (15.3 per cent.); the line then falls in April to thirty-eight attacks (8.6 per cent.), and after two more rises—one in May, forty-seven attacks (10.7 per cent.), and the other in July, forty-six attacks (10.5 per cent.)—falls almost perfectly regularly to its lowest point in October. Before attempting to find an explanation for the high percentage in March, I will again draw attention to tracing No. 3, which represents the one hundred and seventy separate attacks previously reported; this will be seen to resemble, in every essential particular, the tracing we have just studied. These cases I have included in the present paper. Nothing especial is seen in comparing, with the chorea tracing, that of the *mean relative humidity* (No. 9), or that of the *mean barometer* (No. 2), except that there appears to be an increase in the number of attacks of chorea with a fall of the mean relative humidity and barometer tracings; neither is much seen in comparing with it the mean daily range of the thermometer (No. 1), which shows the variableness in temperature of the different months; this is greatest in May, and least in December.

A resemblance begins to be apparent between the chorea tracing and the tracing of cloudy days (No. 7). The mean temperature tracing (No. 4) does not throw much light on the subject.

The tracings of the number of days on which rain or snow fell, and that showing the amount of rain or melted snow in inches, also show a slight resemblance to the chorea tracing. These lines are not shown on the table.

The probable cause of the resemblances noted becomes more apparent when the storm tracing is studied, because these meteorological factors may be considered as component parts of a storm.

In studying the storms, circles of varying radii were thus drawn around Philadelphia and the number of storm centres, as marked on the weather-bureau maps, counted in each, but the closest resemblance appeared to be with the number of storms passing within the four-hundred-mile circle, and for this reason it is the only tracing that I have placed on the table. In the former study the great resemblance between the chorea tracing and the storms within the seven-hundred-and-fifty mile circle was pointed out, but the result of the present study being more exact and more extended is the one to be most relied upon.

The small number of storms passing within the four-hundred-mile circle occurs in August, a rapid rise of the tracing then takes place until December and January are reached, then there is a slight fall in February, immediately followed by a rise to the highest point in March, after which there is an irregular fall until the low point in August is reached.

Any one looking at these two tracings, as shown in the table, will have to acknowledge that the marked resemblance which exists is more than accidental, but to decide which factor in this complex disturbance, which we call a storm, is the baneful one, or in what manner it acts, is difficult.

Let us now turn to another disease, and study its tracing, and for this purpose acute articular rheumatism has been selected on account of its well-recognized relation to chorea.

November shows the fewest attacks, viz. : twenty-four, or 5.1 per cent. ; from this point the tracing rapidly rises until January, with fifty attacks (10.7 per cent.), is reached, then falls slightly in February and March, to rise to its greatest height in April, eighty-one attacks (17.3 per cent.) ; from this point it rapidly falls to thirty-two attacks in June (6.8 per cent.), and then gradually and slightly irregularly falls to its lowest point in November.

While the chorea tracing shows a strong tendency to keep pace, month by month, with the irregularities of the storm tracing, that of rheumatism, while also strongly resembling the latter, may be seen to be exactly *one month later*, looking as if the effect of the meteorological changes was immediate in the case of chorea (as it is now acknowledged to be in some varieties of neuralgia), and preparatory only in the case of rheumatism.

From the close relationship known to exist between these two diseases, one might be led to suppose that the rheumatism tracing would precede, or at least accompany, that of chorea, instead of following it, as this study seems to show.

In Zurich, according to Lebert, as quoted by Senator in Ziemssen's Cyclopædia, out of two hundred and twenty cases of rheumatism during the years 1853 to 1859, the highest percentage occurred in January, 9.5 per cent., and in April, 13.3 per cent., agreeing exactly with the months of highest percentage in this city. A study of the storm records abroad, and their relations to rheumatism and corea, would be interesting, and probably explain the seeming diversity of opinion.

Many of the statistics of chorea are of but little value in this connection, as the months of application for treatment, and not the months of onset, are given.

The reports of observers in different countries do not agree as to the season of the year in which chorea is most prevalent.

Angel Money (*Brain*, 1882, p. 512) reports the *months of application for treatment* of the two hundred and twenty four cases to University College Hospital and to the Hospital for Sick Children. The greatest number occurred in January, viz., thirty cases, and the smallest number in July, August, and September, viz., eleven cases each. Arranged according to seasons, spring shows seventy, summer forty-seven, autumn forty-four, and winter sixty-three.

Germain Sée (*De la Chorée*, Paris, 1850, p. 460) is the authority for the statement that, in France, chorea is principally observed in the autumn and winter. My cases, arranged according to seasons, show the following order: Spring one hundred and fifty-two, summer one hundred and twenty, autumn sixty-four, winter one hundred and one.

A comparison of the rheumatism tracing of this table with the varying states of the weather, leaving out the storm records, does not explain the reason of the highest point in April. That month shows the lowest mean relative humidity, and also the lowest barometer; but, in opposition to this, the next highest month, viz., January, gives the highest mean relative humidity and the highest barometer. The temperature in April averages a little over 50°, and January about 32°. The most changeable month is May, so that this cannot be the explanation.

It may be well to explain that the mean relative humidity does

not show the *mean actual amount* of moisture continued in the air, but the *mean per cent.* of the moisture that could be held in suspension at the *mean temperature* of each month ; the amount representing complete saturation being indicated as one hundred.

Thus a given bulk of air at a low temperature, if saturated, and ready to drop its moisture, will become dry, if the temperature is raised, although it still holds the same amount of moisture.

This study may be considered as forging one more link in the obscure chain which binds together these two dissimilar affections.

Dr. WHARTON SINKLER said that this paper was valuable and interesting because it showed the close relation between chorea and rheumatism, which has been denied by some authors. For instance, Sturgis had two hundred and nineteen cases of chorea in the Hospital for Sick Children in London, of which number twenty per cent. also had rheumatism ; but he did not attach much importance to this connection, because, as he stated, fifteen per cent. of all children have rheumatism. Other writers have expressed the same views. This paper seemed to prove the relationship between the storm centres and attacks of rheumatism and chorea.

Dr. G. E. DE SCHWEINITZ reported

Eight Cases of Tobacco Amblyopia ; One Complicated with Disease of the Spinal Cord.

Since 1854, when Mackenzie showed that defective vision might be produced by tobacco-smoking, and since, ten years later, when the subject was renewed and enlarged by the observations of Hutchinson, tobacco amblyopia has become one of the well-recognized facts of ophthalmological science. As is well known, progressive and usually equal failure of vision, unimproved by optical therapeutics ; a feeling of wretchedness on the part of the patient ; an ill-defined ophthalmoscopic picture ; and a symmetrical, oval scotoma in the fields of vision, lying between the fixing point and the blind spot, and often including both, in which the perception of green and red is especially defective, constitute the marked symptoms of this affection.

CASE I.—A. G., æt. forty-nine, a book-keeper, presented himself in the University Hospital, because his vision was failing and because of sleepless nights. He was a large, dark-haired man, with a restless, irritable disposition. Vision in the R. E. $\frac{20}{C}$,

L. E., $\frac{20}{CL}$. Pupils about normal in size and reaction. Vision best in the early morning. Both optic nerves slightly hazy and gray in their deeper layers. The refraction H., but vision unimproved by the correcting glass. The fields of vision for white and red about normal. Between fixation—*i. e.*, the macula and the blind point, *i. e.*, the optic-nerve entrance—there was an oval, slightly sloping, relative scotoma, including both. In this area green appeared dirty-white, and red could not be distinguished as such. For twenty years he had smoked excessively, averaging two pounds of Cavendish a month. He drank one pint of spirits a day. He was ordered to stop tobacco absolutely and to diminish his daily quantity of spirits. In a month his vision had improved to $\frac{20}{XXX}$ in each eye, and with his correcting glass he could read with fair ability.

CASE 2.—B. E., æt. fifty-three, laborer, came to the University Hospital for failing vision. He was a small, dark-skinned man, with fairly steady nerves. Vision, R. E., $\frac{20}{LXXX}$; L. E., $\frac{20}{L}$. Pupils normal in size and reaction. Vision worse in a bright light. Both optic nerves were gray-red, and the veins full and dark. The fields of vision showed no marked peripheral change, but perfectly characteristic oval scotomata were present. This man had smoked two pounds of "hard tobacco" a month for many years, and was accustomed to drink one quart of spirits a week. The usual order to stop tobacco was given. Sufficient time has not yet elapsed to prophesy how successful the case will be.

CASE 3.—J. M., æt. thirty-five, a mechanic, came to the University Hospital because of defective vision, headache, and great nervousness. He was a short, thick-set man, tremulous, and despondent. Pupils exhibited no abnormalities. Vision, R. E., $\frac{20}{LXXX}$; L. E., $\frac{20}{C}$. The nasal edges of the optic nerves were hazy, and the temporal sides gray; arteries rather small. The fields for white and red not far from normal, those for red being slightly contracted. In the right eye, from fixation, and including it and passing outward, there was an oval scotoma for red and green, which reached to the blind spot, but did not embrace it. In the left eye, a similar, rather more irregular scotoma. Up and out from the fixing point a small area of the scotome was absolute. This man for fifteen years had smoked about six ounces of coarse tobacco a week, and occasionally cigars and cigarettes. He denied taking any thing to drink, except a little beer or ale. In eight days his vision in right eye had become $\frac{20}{XXX}$, and in the left eye $\frac{20}{LX}$. He then passed from observation.

CASE 4.—Ida J., æt. twenty-seven, came to the University Hospital because of failing vision and great "nervousness." She was a finely formed brunette, of rather pallid countenance and excitable temperament. Vision in R. E. all of $\frac{20}{XL}$, some of $\frac{20}{XXX}$, The L. E. had been removed years ago for disease. Pupil responded freely to the change of light and shade, and was about medium size. The optic nerve was pallid, edges clear, arteries rather small. The field of vision both for white and red was somewhat contracted, and surrounding fixation in a band-like manner, but not extending to either side, there was a relative scotoma, in which this color appeared "brownish" or rather "dull-colored." The girl used no tobacco, but had worked for some years in a tobacco factory. On this account she was advised to get other employment, and also to take one twenty-fourth of a grain of sulphate of strychnia three times a day. In two weeks the scotoma was no longer demonstrable, and in about one month the vision had returned to normal, and is now above normal.

CASE 5.—H. H., æt. fifty-eight, a shoemaker, came to the dispensary of the University Hospital, because his eyesight was so poor he could no longer see to do his work. He was a medium-sized man, with dark hair, beginning to turn gray, tremulous, and easily startled. Vision in the R. E. $\frac{20}{CC}$; the same in the L. E. The pupils were small, and failed to respond to the changes of light and shade, although they contracted in the efforts of accommodation. The optic nerves showed a large, shallow excavation, widening of the scleral ring all around, and were of a distinctly gray color. There were no changes in the central circulation. The fields of vision showed slight contraction for white, distinct limitation for colors, and oval scotomata from fixation to blind spot, including both. The man smoked three ounces of tobacco weekly and drank whiskey, but not to excess. Further examination developed the fact that the patellar reflexes were absent, that with closed eyes the upright position was maintained with difficulty, and on attempting to walk, the gait became staggering, if not positively ataxic, and that preceding the time of failing vision there was a history of diplopia. These symptoms, together with the state of the pupils, rendered the presence of sclerosis in the posterior columns of the cord a fair inference. There was no history of syphilis. Examination of the urine revealed it normal. The patient was ordered to stop the use of

tobacco, and take iodide of potassium. Although two months have elapsed since he applied for treatment, no improvement in his vision has taken place, nor have the scotomata changed or lessened.

CASE 6.—W. H., æt. fifty-eight, a farmer, applied for treatment in the University Hospital, because of a "cloud" before his vision and inability to do even ordinary coarse eye-work. He was a well-preserved, large-framed man, with iron-gray hair, and presented no noteworthy unsteadiness of the nervous system. Vision in the R. E. counts fingers at two feet, in the L. E. $\frac{10}{60}$. The pupils were small; they responded to the changes of light and shade, and also to the efforts of accommodation. Both optic nerves were small, surrounded by a halo, and their edges and the surrounding retina hazy. The disks were gray-red in color. In the neighborhood of each macula were slight patches of choroiditis. In the R. E. the field of vision for white was contracted, but not markedly so, and the fields for blue and red showed similar slight limitations. Between fixation and the blind spot, a large irregular scotoma for all colors. In the area surrounding the fixation, and for a small distance toward the blind spot, the loss of color was absolute; from there to blind spot relative. In the L. E., the field for white was limited above, and the fields for red and blue irregular and constricted. A similar scotoma, absolute near its centre, extended between fixation and blind spot, and included both. This man smoked four to six cigars daily, and drank "an occasional glass of whiskey." The patella reflexes were prompt, and greater on the right than the left side. His urine has as yet not been examined.

CASES 7 and 8.—These cases occurred in private practice, and were both men over forty years of age, of active business habits, who complained of indistinct vision. In both the vision was not far from normal, viz., $\frac{15}{xx}$ and in both the eye-grounds presented no abnormal features. There were no true scotomata, only slight dimness of the perception of green and red between the macula and the optic nerve. These men were inveterate smokers. The difficulty of vision disappeared in one patient when he ceased using tobacco, the other declined to abandon his habit. While tobacco was evidently producing deleterious effects, these cases can scarcely be classified as true instances of tobacco amblyopia.

In three of the cases reported, the ophthalmoscopic examina-

tion revealed "hazy disks" either with or without full, dark retinal veins (Cases 1, 2, and 3); in two, if the last record be included in the list, there were no fundus changes (Cases 7 and 8). In one the optic nerve was pallid, the arteries rather small, perhaps the appearance of beginning atrophy (Case 4), and in one the nerve showed evidences of gray atrophy (Case 5), while in another the appearances were those of a subsiding neuritis (Case 6). Three of these cases are perfectly typical instances of tobacco amblyopia (Cases 1, 2, and 3); and two of them, if not characteristic cases, at least showed the result of tobacco impression (Cases 7 and 8). Case 4 is an atypical one, inasmuch as the scotoma surrounded the fixation but did not include it or pass to either side, and, furthermore, is noteworthy because of the fact that the tobacco found its entrance into the system by absorption through the skin. This woman worked in tobacco, but did not use it. Case 5 may be one of those rare instances in which a central scotoma appears with a spinal atrophy of the optic nerve, but inasmuch as the man used tobacco, although moderately, its influence cannot be excluded. An almost precisely similar case is recorded by Gowers (*Med. Ophthalmoscopy*, p. 111). In Case 6 it is doubtful if the use of tobacco produced the scotoma, although, as in the last instance, the patient was accustomed to its use, and hence its influence cannot be excluded. The whole subject of tobacco amblyopia has so often and so thoroughly been discussed, notably by Mr. Nettleship ("St. Thomas's Hospital Reports," 1878), that it is useless to do more than report these cases and point out the features that are interesting.

Dr. B. ALEX. RANDALL remarked that some ophthalmologists disbelieve in the existence of tobacco amblyopia. Very few cases have been put on record in which the influence of alcohol could be wholly excluded; but the combination of alcohol and tobacco is certainly a serious disturbing element in a number of cases. This affection is constantly coming under notice—occurring some eight or ten times in a thousand cases. While the scotoma is usually of an oval form, he had seen it distinctly annular (as in Case 4) in a case typical in other respects.

It has recently been claimed that the absolute quantity of nicotine used does not bear that relation to amblyopia that we should infer, and that those who smoke the finest cigars are more liable to this affection than those who smoke the poorest and strongest.

Dr. JAS. HENDRIE LLOYD asked if this affection were due to neuritis or to some disturbance of the intra-ocular circulation? The cases reported suggested an interesting analogy between tobacco amblyopia and peripheral neuritis, especially that form due to toxic agents. Is this a form of toxic neuritis of a special nerve?

Dr. J. MADISON TAYLOR, referring to one of the cases reported, asked if it were not possible to have a powerful effect from the absorption of tobacco by the skin and lungs? In children working or living in tobacco shops, he had, in several instances, seen profound disturbance of the heart as the result of absorption.

Dr. LOUIS J. LAUTENBACH remarked that there had always been an element of doubt about these cases, and that of late this had become stronger. There are cases reported in which alcohol has been stopped, while the tobacco has been continued, and the patients have gotten well. Dr. Minor, of Memphis, reports eight such cases. In addition to the discontinuance of alcohol, he administered in these cases either iodide of potassium or strychnia. Nettleship, Foerster, and a few others, have succeeded in curing some of these amblyopia cases by the discontinuance of tobacco alone. About two years ago, at the Philadelphia Eye and Ear Dispensary, he had experimented in this matter, and had cured a number of cases by removing alcohol, allowing them to use tobacco, without the use of any medicines. The same treatment had resulted satisfactorily in two cases treated in private practice. One case was that of a professional base-ball player, who was in the habit of drinking thirty-five or more glasses of whiskey, and smoking from eighteen to twenty-five cigars a day. When examined, both eyes gave $V. = \frac{3}{1X} (?)$. The patient was directed to stop the use of strong liquors, but to keep on with his tobacco. In four days later $V. = \frac{3}{XXXV}$. Vision continued to improve, although no medicines were used.

The condition which causes this amblyopia may be a slight grade of retro-ocular neuritis, involving only the macula lutea fibres, which may be induced not only by tobacco but also by alcohol; lead occasioning it in some few cases. Depressed conditions of the system may probably cause it. This amblyopia with central scotoma, is coming to be looked upon not as a special symptom of tobacco abuse, but rather as an indication of the depression of the general system which may be brought about by various poisons.

Dr. WHARTON SINKLER referred to a paper published in one of the New York journals by Drs. Roosa and Ely, giving the results of the examination of a large number of workers in cigar factories, many of those examined smoking a great deal. Only a very small proportion of these cases was found to present any defect of vision or any disorder of the nerve. He asked if in the experience of other members they had found that a large proportion of nervous diseases were attributed to tobacco. He saw but few patients at his clinic at the Infirmary for Nervous Diseases with nervous disorders which could be directly attributed to the use of tobacco.

A point to be remembered in the consideration of this subject is that a person who takes alcohol will use more tobacco than one who does not. If he stops his alcohol he will take less tobacco.

Dr. MORRIS J. LEWIS stated that in studying the subject of writer's cramp, he had found that in the majority of cases the use of tobacco increased the difficulty. A few out of forty-three cases said that it did no harm, and three said that it was of service.

Dr. FRANCIS X. DERCUM asked if those who used tea or coffee to excess, especially tea-testers, presented symptoms analogous to those presumably caused by tobacco and alcohol.

Dr. B. ALEX. RANDALL said that there were some cases in which alcohol *could* be entirely excluded in the causation of this affection. As to the pathology of the trouble, it is interesting to note that he knew of no case on record of true neuritis in the sense of any thing like a choked disk, which had any apparent relation to tobacco abuse; although such cases are not rare in lead poisoning and other toxæmic conditions. In all cases of actual neuritis of the optic nerve, as in inflammation of other nerves, strychnia has to be carefully avoided in the acute stage. In most cases reported, the use of strychnia had no injurious effect, and in fact caused, or was followed by, improvement. In some cases where strychnia has been given and the alcohol and tobacco both continued, recovery has taken place. The amount of poison required to produce a certain effect probably depends upon the constitution and condition of the patient. If the general condition is brought up, a given amount of the poison no longer has the same effect.

Dr. CHARLES K. MILLS, referring to the question of Dr. Sinkler, stated that his experience agreed with that of Dr. Sinkler, that

nervous disorders are rarely attributable to the use of tobacco, although some cases of tremor and general nervousness, and a few other affections, undoubtedly originate in this way.

Dr. GEORGE E. DE SCHWEINITZ, in closing the discussion, said that he believed that in these cases there was an axial neuritis. He has had no experience with the poisonous effects of tea and coffee. Some of the cases reported had recovered, although the free use of spirits was continued. One of the patients continues to drink a pint of whiskey a day, and yet his vision has remained normal since the discontinuance of tobacco. The only way to reach a satisfactory explanation of this subject is to continue the experiments.

One object in presenting this series of cases was to call attention to the importance of a careful study of the field in nervous cases. If this were done more frequently, many interesting discoveries would probably be made.

Referring to the question of Dr. Taylor, he said that tobacco is freely absorbed through the skin, but inasmuch as it is rare to find scotomata under such circumstances, he had reported the case.

Dr. FRANCIS DERCUM reported

A Case of Unusual Paresis of the Forearms.

Dr. CHARLES K. MILLS referred to three cases which had been reported a few years ago, by Dr. Kerlin and himself. These cases were studied at the School for Feeble-minded Children at Elwyn. The patients were brothers, and in them was a marked combination of pseudo-hypertrophy and muscular atrophy. One of the boys, who has since died, presented in the calves the typical appearance of pseudo-hypertrophy, and also in one or two other isolated portions of the body. In the back, however, were all the distinctive signs of progressive muscular atrophy. In the second case the changes were principally those of progressive muscular atrophy. In the third there was a combination of the two conditions. Why in one case we get the pseudo-hypertrophic form, and in another the atrophic form, he was not prepared to say. He believed that in all cases there are cord and nerve lesions, but he did not know which of these was primary. In the treatment of such cases, that pursued in the present instance would seem to offer the most hope. He was in the habit of putting these cases on strychnia, iron, cod-liver oil, and similar tonic and nutrient

remedies. He had never seen much benefit from local treatment, but if myositis was present, he thought it worthy of a trial.

Dr. JAMES HENDRIE LLOYD said, with reference to the age at which this affection may develop, that he had recently seen a case in which a married woman, thirty years of age, who had been under treatment on several occasions without a positive diagnosis having been made, returned after an interval of four months with hypertrophy of the muscles of the calf, lordosis, and other characteristics of pseudo-muscular hypertrophy. This was the first case which he had seen in which the disease had apparently occurred as a primary disease in an adult with no hereditary tendency.

Dr. WILLIAM OSLER remarked that some observations had been made by an English physician with reference to the atrophy which follows great use of the muscles. After examining the microscopic specimens, he agreed with Dr. Dercum in regard to the condition present in this case. There was no essential difference between the atrophic and the pseudo-hypertrophic form of the disease, and both may be present in the same case.

Dr. WILLIAM OSLER exhibited the following specimens :

Pachymeningitis.

J. K., was admitted to the drunkards' ward of the Philadelphia Hospital, on August 26th, with delirium tremens, and died September 4th. I did not see him during life, but from the account given by the resident physician he appears to have had an ordinary attack of delirium tremens without any paralysis, local or general. He was not in a condition to give a satisfactory account of himself. Death took place from exhaustion. The post-mortem showed an extensive pachymeningitis of the right half of the dura mater. The specimen presents layers of exudation two lines in thickness over the central portion of the dura, gradually becoming thinner toward the tentorium or the orbital surface. In these regions there was a delicate uniform sheeting on the dura mater, and no hemorrhage had as yet taken place ; but on examination with a low-power lens there could readily be seen a plexus of wide vessels. In the central part there were several layers of altered blood, alternating with colorless firmer exudation. The surface of the pia mater of this hemisphere was a little stained, but there had evidently not been any pressure upon the convolutions. There were no other lesions.

Phthisis ; Tubercular Meningitis ; Aphasia.

J. McD., æt. thirty-six, laborer, was admitted to the Philadelphia Hospital, June 5th, with phthisis. There was nothing special in his family history ; five of his brothers and sisters had died from causes unknown to him. He had been ill for over eighteen months with cough, fever, chills, and sweats. Had brought up blood and had had severe diarrhœa. When I saw him first, on September 4th, there were signs of extensive disease in both lungs. Ten days before he had two convulsions, after which he had some difficulty in talking. On the 4th he looked bright and intelligent, the pupils were dilated and there was no paralysis. Expressed himself with difficulty ; when asked his name, said *Joseph Mac*, but could not say the *Donald*. After several attempts and a good deal of worry, he did so, and seemed much pleased. Some words he said clearly, others he could not. Thus he could read the letters of the word *shaken*, but could not pronounce it. He was delirious at times during the next two weeks, and one night he got from the ward on the fire-escape. The aphasic condition improved somewhat. The eye-grounds were examined twice, with negative results. At the time of my visit on September 10th he had an epileptic seizure, strong spasm of respiratory muscles, and great lividity ; tonic spasms of arms, gradually relaxing and becoming choreic ; facial muscles in violent action ; face drawn to the left, eyes to the right (strongly) and upward. He became unconscious the next day and died on the 14th. The autopsy showed extensive disease of the lungs. The brain was large ; at the base the membrane was thickened and infiltrated and tubercles existed along the vessels. On exposing the Sylvian fissures, the pia on the left side covering the insula was very thick and studded with tubercles the size of a pin's head. The process was most advanced upon the three or four posterior gyri of the insula. The gray matter was reddened and soft. The third left frontal convolution was not specially involved ; there were a few isolated tubercles on the pia, but the membrane was not thickened. In the right Sylvian fissure there were tubercles scattered along the vessels, and the arteries of the anterior perforated spaces presented many bead-like and oval swellings. The ventricles were dilated and their walls softened.

Embolism of Right Middle Cerebral Artery ; Chronic Nephritis.

J. W., laborer, æt. forty-nine, was admitted to the Philadelphia Hospital Oct. 7, 1886. No special history could be obtained, as

he was very dull and heavy. When I saw him on the 9th he was apathetic, answered questions with difficulty. The face was anæmic, and he had a decidedly renal look. The pulse was slow and hard, sixty to the minute. No increased heart dulness, possibly a murmur at apex, but it was not at all distinct, and at base very ringing. There were albumen and casts—hyaline. The case was regarded as one of chronic interstitial nephritis.

On the morning of the 12th he had a hemiplegic attack. I found him at 1 o'clock P. M., comatose, with puffing respiration and complete left hemiplegia, including face. Right pupil larger than the left. He died during the night.

The autopsy showed cirrhotic kidneys, slight atheroma in large vessels, moderate hypertrophy of left ventricle. The mitral valve presented recent vegetations, three in number, on the auricular face of segments, freely movable, and on the posterior flap, a flattened area, looking as if eroded. The right hemisphere of the brain looked fuller than the left, and the vessels were not so full, particularly in the central region. The vessels of the circle of Willis were denuded *in situ*, and the right middle cerebral just beyond the first two branches (temporal) was found plugged with the firm embolism here shown. It was very evident before opening the vessel, as it showed grayish-white throughout the coat, while on either side of it were dark clots, and the branches beyond it were very small. The embolus is as firmly adherent, and had a small pale clot on its proximal, and a firm dark one on its distal side. Examination showed it to be an endocardial vegetation, and it doubtless came from the rough spot on the posterior segment. The convolutions of the central portions of the hemisphere were swollen, and œdematous, particularly the gray matter, and softer. There was a light gray-yellow tint, but there had not been time for much change. The right anterior cerebral was greatly enlarged, three times as big as the left, doubtless a compensatory process.

Dr. CHARLES K. MILLS remarked that cases of pachymeningitis hemorrhagica were somewhat common in the Philadelphia Hospital. He had met with a comparatively large number of cases in making autopsies in that institution. A form of hemiplegia met with in the wards of this hospital is undoubtedly due to pachymeningitis hemorrhagica. These cases make partial recoveries, and then again break down, and at the autopsy is found the condition exhibited to-night. He had reported one

case five years ago, with a number of other cases, in the English journal *Brain*. This condition is sometimes mistaken for embolism, hemorrhage, or some other form of disease producing hemiplegia.

In some of the cases he had seen there had been distinct naked-eye flattening of the convolutions of the motor region, which he supposed accounted for this peculiar, variable form of hemiplegia.